

INTERPOSER FOR IMPEDANCE MATCHING

ABSTRACT

A capacitive interposer (caper) is disposed inside an integrated circuit package between a die and an inside surface of the package. Conductive layers within the caper constitute a bypass capacitor. In a through-hole caper, micro-bumps on the die pass through through-holes in the caper and contact corresponding landing pads on the package. As they pass through the caper, power and ground micro-bumps make contact with the plates of the bypass capacitor. In a via caper, power and ground micro-bumps on the die are coupled to power and ground landing pads on the package as well as to the plates of the bypass capacitor by power and ground vias that extend through the caper. In signal redistribution caper, conductors within the caper redistribute signals between die micro-bumps and package landing pads. In an impedance matching caper, termination structures within the caper provide impedance matching to a printed circuit board trace.